Remarks

Specification:

The Examiner suggested replacing the docket numbers on page 1 with actual US Patent Application serial Numbers. This has been done.

Rejections Under 35 USC 112:

Claim 2 was rejected under 35 USC 112, second paragraph because the limitation "the step of obtaining a 2N element first direct sequence spread spectrum code" in line 4 does not have sufficient antecedent basis. This claim has been amended accordingly.

Rejections Under 35 USC 102:

Claims 1, 5, 6, 8, 15, 18, 19, 23, 24, 27, 34, and 36 were rejected under 35 USC 102(e) as being anticipated by Jones et al. The Applicants respectfully disagree with the Examiner's contention that Jones teaches what is claimed by the Applicants. In particular, the Applicants teach a system where information (i.e., data) is transmitted from a transmitter to a receiver. The means for conveying the information from the transmitter to the receiver is by transmitting a cyclically-shifted spread spectrum code, wherein the amount of cyclical shifting conveys the information (bit pattern). Thus the information transmitted to the receiver is conveyed via the particular shift in a spread-spectrum code.

In order to accomplish this task, the data is parsed into groups of one or more bits, with each group being assigned a specific cyclical shift based on the bit pattern of the group. Thus, for example, where groups of two bits are utilized, four possible bit patterns exist, namely 00, 01, 10, and 11. In order to convey the particular bit pattern to the receiver, a spread-spectrum code is transmitted to the receiver having a cyclical shift based on the particular bit pattern. Thus, four possible cyclical shift patterns may exist, each associated with 00, 01, 10, or 11.

With the above in mind, independent claims 1, 18, 23, and 36 are claims directed towards a transmitter. Each of these claims has the limitation that a cyclical shift is based on a bit pattern of one or more bits of data to be transmitted to a receiver. This limitation

is neither taught nor suggested in the prior art of record. More particularly, analysis of Jones shows that the PN code generator (446) is controlled by a VSAT Control block (450), and in no way is it based on a bit pattern of transmitted data, as claimed. Thus, because Jones fails to teach or otherwise suggest that the cyclic shift is based on bit patterns of data to be transmitted, claims 1, 18, 23, and 36 are not anticipated by Jones.

Regarding independent claims 8, 27, and 34; these claims are directed towards a receiver and contain the limitation that one or more bits are output having a bit pattern associated with a cyclical shift. In other words, claims 8, 27, 34, and 37 each receive a signal having a cyclically shifted spread spectrum code, and output one or more bits having a bit pattern associated with the cyclical shift. As discussed above, Jones fails to teach or otherwise suggest this limitation.

Claims 1, 2, 4, 6, 8, 11, 18, 19, 21, 27, and 38 were rejected under 35 USC §102(e) as being anticipated by Karino. Analysis of Karino reveals that this reference fails to teach or otherwise suggest the Applicants claimed step of cyclically shifting a spreading code based on the transmitted bit pattern. More particularly, claims 1, 18, 23, and 36 are claims directed towards a transmitter that varies a cyclical shift within a spreading code based on a transmitted bit pattern. These claims have the limitation of determining a first cyclical shift based on a bit pattern of the one or more bits. FIG. 10 of Karino shows code generator 100 having no input. More specifically, the code generators of Karino simply output a spreading code, but fail to base the cyclical shift on any bit pattern.

In a similar manner independent claims 8, 27, and 34 are directed towards a receiver and contain the limitation that one or more bits are output having a bit pattern associated with a cyclical shift. Analysis of Karino reveals that his code generators fail to generate a bit pattern associated with a cyclical shift. In particular, Karino teaches the use of various channels, each with a particular cyclic shift, but fails to teach or otherwise suggest cyclically shifting the spreading code based on a transmitted bit pattern. Because of this, claims 1, 2, 4, 6, 8, 11, 19, 21, 27, and 38 are not anticipated by Karino.

Claim Rejections Under 35 USC 103(a):

Claims 23, 24, 34, 36, and 37 were rejected under 35 USC §103(a) as being unpatentable over Karino in view of Langberg. For the same reasons set forth above, the

combination of Karino and Langberg fail to make obvious claims 23, 24, 34, 36, and 37. In particular, neither Karino or Langberg (alone or in combination) teach or otherwise suggest the modulation of data using cyclically shifted spread-spectrum codes. In other words, these references fail to teach or otherwise suggest the Applicants' claimed steps of having one or more bits output having a bit pattern associated with a cyclical shift, or determining a cyclical shift based on a bit pattern.

Double Patenting:

Claims 1-38 were provisionally rejected under 35 USC 101 as claiming the same invention as that of claims 1-4, 5-18, 2-40 of co-pending application 10/198,712. As discussed above, claims 1, 18, 23, and 36 are claims directed towards a transmitter that varies a cyclical shift within a spreading code based on a transmitted bit pattern. These claims have the limitation of determining a first cyclical shift based on a bit pattern of the one or more bits. In a similar manner independent claims 8, 27, and 34 are directed towards a receiver and contain the limitation that one or more bits are output having a bit pattern associated with a cyclical shift. Analysis of co-pending application 10/198,712 reveals that this feature is neither taught nor suggested. In fact, **none of the claims even mentions a cyclical shift.** Because of this, the double-patenting rejection should be withdrawn.

In Summary:

The Applicants' claimed invention allows for the modulation of data via the cyclic shift of a spreading code. In doing so, data to be transmitted is analyzed, and a specific cyclic shift in the spreading code is determined based on the value of the analyzed data. The spreading code is transmitted having the predetermined cyclic shift. When a receiver receives the cyclically shifted spreading code, a shift value is determined and associated with predetermined bit values. No references cited by the Examiner teach or otherwise suggest this method of data modulation. Because of this, claims 1-38 are allowable over the prior art of record.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein; and no amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of

references. As the Applicant has overcome all substantive rejections given by the Examiner the Applicant contends that this Amendment, with the above discussion, overcomes the Examiner's rejections to the pending claims. Therefore, the Applicant respectfully requests allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter. Finally, please charge any fees (including extension of time fees) or credit overpayment to Deposit Account No. 502117.

Respectfully Submitted,
Callaway, ET AL.

by:_____

Kenneth A. Haas
Reg. No. 42,614
Phone: (847) 576-6937
FAX: (847) 576-3750